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SOUTH AUSTRALIA

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# ANNUAL REPORT



OF

# THE CENTRAL BOARD OF HEALTH

FOR THE

YEAR ENDED 31st DECEMBER, 1951

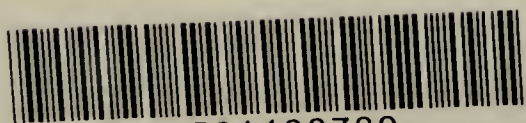
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# THE PUBLIC HEALTH

## Annual Report of the Central Board of Health to the Minister of Health (Hon. A. Lyell McEwin, M.L.C.)

SIR—We have the honour to submit to you this annual report for the year ended 31st December, 1951. The report is arranged in these ten sections :—

1. Staff and administration.
2. Legislation.
3. Vital statistics.
4. Infectious diseases.
5. The poliomyelitis epidemic.
6. Tuberculosis.
7. Food and drugs administration.
8. General sanitation.
9. Industrial hygiene.
10. Comments.

The section on vital statistics has been compiled from data supplied by the Government Statist (Mr. A. W. Bowden) and later by the Acting Government Statist (Mr. H. L. Semmens).

The Director of Tuberculosis (Dr. P. S. Woodruff) has prepared section 6. As an officer of the Department, Dr. Woodruff deals with the mass X-ray surveys and other preventive aspects. He also, on behalf of the Director-General of Medical Services (Dr. J. W. Rollison), supervises the work of the Chest Clinic and of the Government institutions for the care of tuberculosis persons.

Industrial hygiene problems coming to the Department are the special care of the Senior Medical Officer (Dr. G. H. McQueen). He prepared section 9. Dr. McQueen has also collaborated with the Board's secretary in compiling the other sections.

The report has an appendix, prepared by Dr. W. Christie, Principal Medical Officer for Schools. The Board has noted with approval that the School Medical Service has been merged into the State Department of Public Health. Such linkage has become the current practice in health administration, and it presents the opportunity to promote health education in a more effective way.

### 1. STAFF AND ADMINISTRATION.

*Personnel of the Board.*—During the year the constitution of the Board was :—

Chairman—Albert Ray Southwood, M.D.

Members appointed by the Governor—

Edward Angas Johnson, M.D., until 19th June, 1951.

John Burton Cleland, M.D.

Neil Daniel Crosby, M.D., from 2nd August, 1951.

Member elected by the metropolitan local boards—

Arthur Roy Burnell, J.P.

Member elected by other local boards—

Frank Charles Lloyd, J.P., until 17th July, 1951.

Alfred Bertram Cox from 28th October, 1951.

Secretary—Hedley Thomas Hutchins.

During the year the deaths occurred of two members of the Board, Dr. Edward Angas Johnson, and Mr. F. C. Lloyd.

Dr. Johnson had been a member of the Board for 39 years, and for 29 years a member of the Advisory Committee on Food and Drugs. In 1934, during Dr. Southwood's absence abroad, he acted as Chairman of both bodies. He was highly qualified in general medicine, and in the specialty of public health. He was an Honorary Consulting Physician at the Royal Adelaide Hospital, was a recognized authority on horticulture, and throughout his life a keen student of the natural sciences. He had a long period of service in the Australian Army Medical Corps.

Mr. Lloyd served on the Board as the elected representative of country local boards for 26 years. He also had a long period of army service, fought abroad in World War I., and retired with the rank of colonel. Mr. Lloyd's intimate knowledge of public health matters affecting the rural areas of the State was especially helpful to the Board.

The loss of two members so long associated with the State's health services has been keenly felt. Both had also taken active parts in the local government work. Dr. Johnson had served as a City Councillor in Adelaide, and later as Medical Officer of Health for Adelaide. Mr. Lloyd was also a City Councillor in Adelaide, and was secretary of the Local Government Association. The wide range of interests of the two members made them particularly valuable on the Board. Their work for the State will long be remembered.



The vacancies were filled by Dr. N. D. Crosby, appointed by the Governor, and Mr. A. B. Cox, elected by local boards outside the metropolitan area.

*Staff.*—During the year the work of the Board has been efficiently carried out by its officers and other members of the Department. The expanding activities of the Board and the Department have required additional staff. In common with other expanding departments, the problem of finding additional accommodation has often been acute. At times the work of the Department has been done under crowded conditions. These rather unsatisfactory conditions have been relieved by additions and alterations to the building occupied by the Department and some re-arrangement of the available accommodation.

Dr. H. F. Hustler was given study leave to work at the Sydney University School of Public Health and Tropical Medicine. It is with much pleasure that we report his success in obtaining the Diploma in Public Health. He has now resumed his duties on the staff of this Department.

During Dr. Hustler's absence, Dr. Pamela Phillips was appointed as a temporary medical officer.

Dr. D. N. Robinson was appointed as a part-time medical officer to carry out special duties related to the "follow-up" and correlation of the treatment and after-care of poliomyelitis patients.

Messrs. Kelly and Robinson were appointed to the staff of the Department as health inspectors under the Health and Food and Drugs Acts. Two of the more senior members of the Department's staff of inspectors left during the year. Mr. W. H. Nicholas resigned to become Hygiene Officer, Central Command, A.R.A., Keswick. He had been with the Department for 19 years. Mr. D. J. Wilson was transferred to the Architect-in-Chief's Department. He joined the staff as a Health Inspector in 1946. Both of these officers gave loyal and valuable services to the Department.

*Change in Name and Administration of Department.*—Up till recently the Department responsible for the State's health work was called the Central Board of Health Department. A notice in the *Government Gazette* of 28th June, 1951, under the Public Service Act, changed the name to the Department of Public Health. The same notice also provided for the transfer of the medical section of the Education Department from that Department to the Department of Public Health. It also stated that the Director-General of Public Health would be the head of the re-named Department. The post of Director-General of Public Health is at present held by the Chairman of the Central Board of Health.

*Jubilee Train Health Exhibit.*—The health exhibit on the Jubilee Train was an outstanding feature of the Department's health publicity for the year.

As a commemoration gesture of Jubilee Year, the Government of Victoria, in co-operation with the Commonwealth Government, organized a Jubilee Train which visited almost all towns linked up with the Victorian Railways system.



BABY HEALTH DISPLAY ON THE TRAIN.

The mothers, of course, were the most interested in this display. It was surprising the number of older mothers who remarked that they had used the old-style feeding bottle with the rubber tube, and who commented on the difficulty of cleaning it and its general unhygienic construction. All expressed admiration for the excellent work done by the Association.

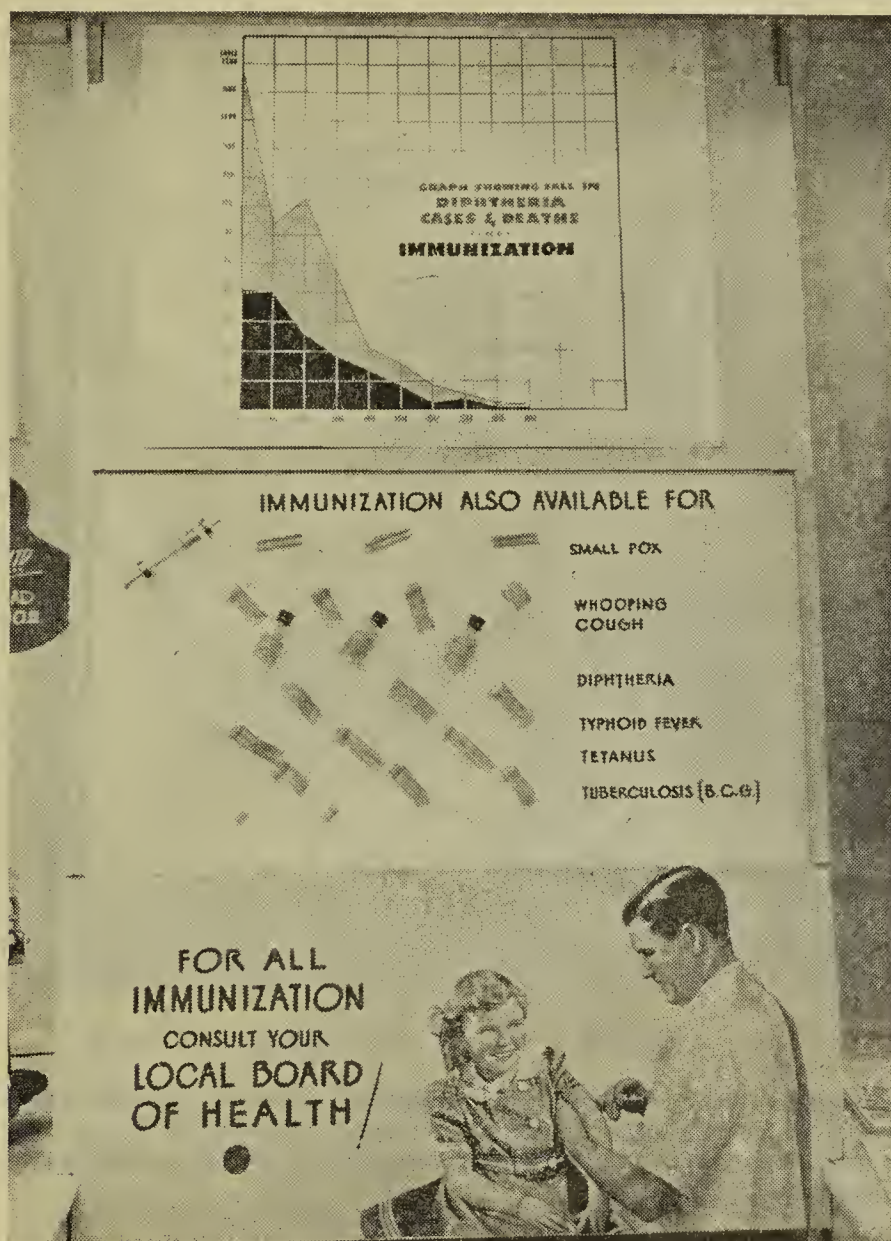
The train carried displays of models, diagrams, art, famous manuscripts and other exhibits illustrating the progress of various State and Federal Departments under Federation and their plans for future development.

By arrangement between the Victorian and South Australian Governments, the train was made available to this State. The Victorian departmental exhibits were replaced by some 16 displays arranged by South Australian departments and these too illustrated departmental progress and future plans.



The State Department of Public Health was amongst the departmental exhibitors. Its display, some excellent photographs of which appear in this report, was designed and arranged by technical officers of the Department. Special features were tuberculosis control and X-ray examination, immunization, septic tanks for rural areas, flies and their control, and a display by the Mothers' and Babies' Health Association.

"*Good Health*."—Four issues of *Good Health* were produced during the year. Each had a bright and attractive cover. The January issue was devoted to the work of local boards of health. The April issue contained a brief review of the septic tank sewage disposal system in South Australia. This issue also included a description and plans of a small modern slaughterhouse, conforming to the requirements of the Health Act Regulations and suitable for a country town. The July issue contained an article on the use of modern insecticides that should be of value to officers of local boards of health. The October issue referred specially to child health and contained articles on various aspects of child welfare in South Australia. The Department desires to record its thanks to all those who assisted in the production of *Good Health* and particularly those who have contributed the useful and interesting articles that make it worth reading.



THE IMMUNIZATION DISPLAY ON THE TRAIN.

Adults were impressed by the graphic depiction of the fall in cases and deaths from diphtheria since immunization, and appreciated the fact that immunization was now available for diseases other than diphtheria. Children were often heard to remark that they had not smiled like the girl in the display when they had their injections.

*News-letters*.—Six news-letters compiled by the Senior Medical Officer (Dr. G. H. McQueen) were sent out to medical officers of health. The letters covered a wide field of public health activities and included arrangements to deal with a possible epidemic of influenza, information regarding poliomyelitis, international small-pox vaccination certificates, salmonellosis, Murray Valley encephalitis, infantile infective diarrhoea, accidental poisoning with kerosene, a diphtheria outbreak and the common South Australian mosquitoes. The letters are a useful means of distributing technical information without delay from the State Department of Public Health to local boards and their officers.

*Circulars*.—Official circulars issued to local boards dealt with the following subjects: Amendments to the Food and Drugs Regulations, Health Act Regulations relating to slaughterhouses, International Vaccination Certificates, sanitary pans, tuberculosis, infantile infective diarrhoea, kerosene poisoning, and National Health Week. Two circulars were sent to pharmaceutical chemists; one referred to the inclusion of sex hormones in Part I. of the Third Schedule to the Poisons Regulations (with a list of 56 preparations that would be included under the term sex hormones), the other referred to the illegal sale and export of streptomycin.

*National Health Week, 1951*.—Health Week was observed this year from 19th-26th October, in all States of the Commonwealth. Valuable publicity assistance was given by the press and wireless broadcasting organizations. A feature broadcast of the work of a health department was given by our local "A" class station and a special session was



arranged for the Minister of Health (Hon. A. Lyell McEwin, M.L.C.). Many shops in Adelaide and in some country towns arranged window displays illustrating some aspect of health work. A special health poster, for Health Week, 1951, was printed and sent to local boards and others interested.

*Town Planning.*—The health aspects of town planning warrant attention, and the Board is pleased that its Chairman was appointed a member of the Town Planning Committee set up by the Government this year. The Committee is giving special attention to preparing a plan for the development of the metropolitan area of Adelaide.

## 2. LEGISLATION.

*Health Act.*—An amendment to the Health Act was made during the year. This amendment related to the control of tuberculosis and gave additional powers to the Director-General of Public Health. The provisions related to the examination of individual suspects; orders for individual examination; compulsory X-ray examination of classes or groups; and detention of recalcitrant tuberculosis patients. The Health Act was also amended to regulate or restrict the production of any dangerous substance, and to regulate or restrict the use or application of dangerous processes.



JUBILEE TRAIN : THE X-RAY SURVEY SECTION.

Most people studied this display closely and were particularly interested in the way in which the signs of tuberculosis appeared on the X-ray film. The graphs indicating the fall in the tuberculosis death-rate were readily understood and appreciated.

*Food and Drugs Regulations.*—During the year amendments were made to the Regulations under the Food and Drugs Act. Wheat, oats, maize, potatoes, onions, fruit, or any other article of food for sale may now be enclosed, carried or stored in any bag, sack or similar material which has previously contained any inorganic manure and which has been thoroughly washed or cleansed. The use of sodium alginate is now permitted as a thickening and suspending agent in flavoured cordials and syrups and fruit squash cordials. Brilliant Blue FCF was added to the list of permitted colouring matters. Vehicles used for the delivery of ice within the metropolitan area are now required to be sanctioned for that purpose.

The organic phosphate insecticides (parathion, H.E.T.P., and T.E.P.P.), because of their toxicity to humans, particularly when improperly handled, were added to the poisons list. This was to enable requirements regarding labelling and containers to be prescribed, and to provide for the form in which they shall be sold by licensed dealers.

*Infantile Infective Diarrhoea.*—Infantile infective diarrhoea was added to the list of diseases which are required to be reported. It has been defined as diarrhoea of more than 48 hours' duration occurring in epidemic form in infants under two years.

*Cemetery Regulations.*—In one of the Upper Murray areas it was proposed to exhume the body of a woman believed to be the first white woman to settle in the area, and to rebury it in a community cemetery. The grave was situated in a swamp near the river. The law made no provision for exhuming and removing the body in the circumstances, even for the laudable purpose mentioned. On the recommendation of the Board, an amendment was made to the General Cemetery Regulations giving discretionary power to the Attorney-General to grant a licence for the exhumation and removal of any body, whether buried in a cemetery or elsewhere.

*Disinfection of Secondhand Clothing.*—An amendment was made by the Local Board of Health for the City of Adelaide to its regulations under the Health Act relating to the disinfection of secondhand clothing. Provided the medical officer of health is satisfied that clothing has been effectively disinfected by a dry-cleaning and pressing process, no further disinfection is now required.



3. VITAL STATISTICS.

The information in this section has been kindly supplied by the Government Statist. It is subject to slight revision. The particulars for 1950 are in parentheses.

*Population.*—The estimated mean population for the State for 1951 was 720,000 (700,184).

*Births Registered.*—The number of births registered was 17,464 (17,306), an increase of 158. For the years 1929 to 1941, the number of births was lower than in earlier years ; in 1935 there were only 8,270, the lowest number since 1876. From 1936 onwards there has been almost a continuous increase to the record total of 17,464 in 1951. Although the actual number registered was a record, the rate per 1,000 of mean population of 24·26 (24·72) was much lower than in the earlier years of the State ; it also was lower than the rates in 1946, 1947 and 1950.

*Sexes of Births.*—The number of boys compared with 100 girls born does not vary greatly and in recent years has been : 1949, 105·64 ; 1950, 105·39, and 1951, 105·48.

*Deaths Registered.*—There were 7,184 (6,740) deaths, an increase of 444 on the record total of the previous year. Although the number registered was a record, the rate of 9·98 (9·63) has been exceeded five times since 1940 and in most years prior to 1922. From 1922 to 1940 there was a continuous period of low death rates, falling as low as 8·44 in 1933. The highest rate in recent years was 11·02 in 1942. The numbers dying from the various causes are not yet available for 1951. As explained in previous reports any further fall in the death rate is unlikely ; indeed, higher rates may be expected in the future.

*Infantile Mortality.*—Deaths of children under one year were 428 (416). The infantile death rate, or the number of deaths of children under one year per 1,000 births during the year of calculation, was 24·51 (24·04). The 1950 rate was a record low for the State and the 1951 is the third lowest. The rate in this State is one of the lowest in the world and has shown a remarkable decrease. Eighty years ago it was 150, 60 years ago it was 100, and 30 years ago it was 60, and 25 years ago it was about double the present rate.

There were 124 (145) deaths of children under one day, 161 (158) of children from one day to one month, and 143 (113) of those from one month but under one year. Compared with earlier years there has been a distinct decrease in the death rate of children under one month, but a far greater decrease in respect of children from one month and under one year.

Deaths of infants from principal causes for 1951 (1950) have been : Diarrhoea 18 (41), congenital malformations 63 (64), pre-maturity 122 (124), injury at birth 49 (41), other diseases peculiar to early infancy 56 (76), cerebro-spinal meningitis 2 (—), meningitis 5 (2), whooping cough 2 (—), diphtheria 1 (—), measles — (—), pneumonia 57 (27), hernia and intestinal obstruction 5 (5), and all other causes 48 (36).

*Still Births.*—These are not included in either births or deaths and they number 316 (325).

*Marriages.*—The number of marriages celebrated was 6,646 (6,585), and the rate per 1,000 of population was 9·23 (9·41).

4. INFECTIOUS DISEASES.

*Statistics.*—Cases and deaths from infectious diseases for 1951 are shown :—

Diseases.	Cases.			Deaths.		
	1949.	1950.	1951.	1949.	1950.	1951.
Cerebro-spinal meningitis .....	16	14	12	—	1	1
Diphtheria .....	38	35	44	1	1	4
Dysentery, amoebic .....	2	4	1	1	1	1
Dysentery, bacillary .....	3	3	3	2	—	—
Endemic typhus fever .....	6	7	8	—	—	—
Erysipelas.....	69	35	39	—	—	—
Influenza .....	4	3	9	3	2	8
Leprosy.....	1	1	—	—	—	—
Measles .....	5,677	7,508	4,053	6	4	5
Paratyphoid fever .....	2	2	2	1	—	—
Poliomyelitis anterior acuta .....	582	973	1,491	20	17	62
Psittacosis .....	2	1	—	1	—	—
Puerperal pyrexia .....	26	26	14	—	—	—
Scarlet fever.....	372	456	258	—	—	—
Tuberculosis, pulmonary .....	251	343	352	124	117	105
Tuberculosis, other forms .....	18	19	24	20	15	15
Typhoid fever .....	7	5	3	1	—	1
Undulant fever .....	2	2	—	—	—	—
Whooping cough .....	1,548	264	275	20	1	1

*Diphtheria.*—There was a small increase in the total number of cases for the year and there were four deaths. The disease occurred in small localized outbreaks, among groups of non-immunized children. It must be emphasized that immunization of all children is essential for safety from diphtheria.

*Encephalitis.*—This term includes a complicated group of virus diseases which attack the brain tissue of man. One case occurred in South Australia during the year and proved to be of the same type as that causing a considerable outbreak in the Upper Murray (not in South Australia). Much technical research has been done on this group of diseases recently, both here and in other countries. As far as is known, no further cases occurred in South Australia during the year.

*Typhoid and Paratyphoid.*—Three cases of typhoid were reported during the year, apparently all originating in Upper North towns. Inquiries were made; circumstantial evidence pointed to the possibility of a carrier, but no direct evidence could be found, and no further cases have appeared. Two cases of paratyphoid were single cases, and no connection with other cases was found.

*Dysentery and Gastro-Enteritis.*—There was a widespread outbreak of gastro-enteritis in the Upper Murray area during the year and there have been scattered cases elsewhere, as also of bacillary dysentery.

There is a large group of bacteria which cause dysentery, gastro-enteritis, and food poisoning, known as *Salmonella*. They may provide many public health problems. Some are purely human parasites. Many others primarily affect animals, but are capable of causing illness if they infect humans. One source of infection is that the carcasses of infected sheep may be eaten by birds which may then pollute and infect drinking water. This problem has received attention.

*Infantile Infective Diarrhoea.*—This has been defined as diarrhoea of more than 48 hours' duration, occurring in epidemic form in infants under two years.

The terminology at present is a little confusing, but two forms of diarrhoea are included. One is a form of infectious diarrhoea caused by known organisms and occurring among new-born infants in maternity hospitals, nurseries and institutions. The organisms concerned belong to one of three groups, the salmonellae group, the shigellae group and a miscellaneous group which includes the staphylococci and streptococci.

The other form of diarrhoea is more infectious. It occurs in new-born infants in nurseries and maternity hospitals. Its cause is unknown. The symptoms are a severe diarrhoea with watery motions that do not contain blood or mucus. The mortality rate is as high as 40 per cent. Severe outbreaks of this disease have occurred in various parts of the world including Australia.

Recommendations to control infantile diarrhoea were made by the National Health and Medical Research Council. These included notification of the disease. No cases have as yet been notified in this State.

## 5. THE POLIOMYELITIS EPIDEMIC.

*Statistics.*—The epidemic which began in May, 1949, has continued throughout the year with fluctuations. Figures are as follows :—

### CASES.

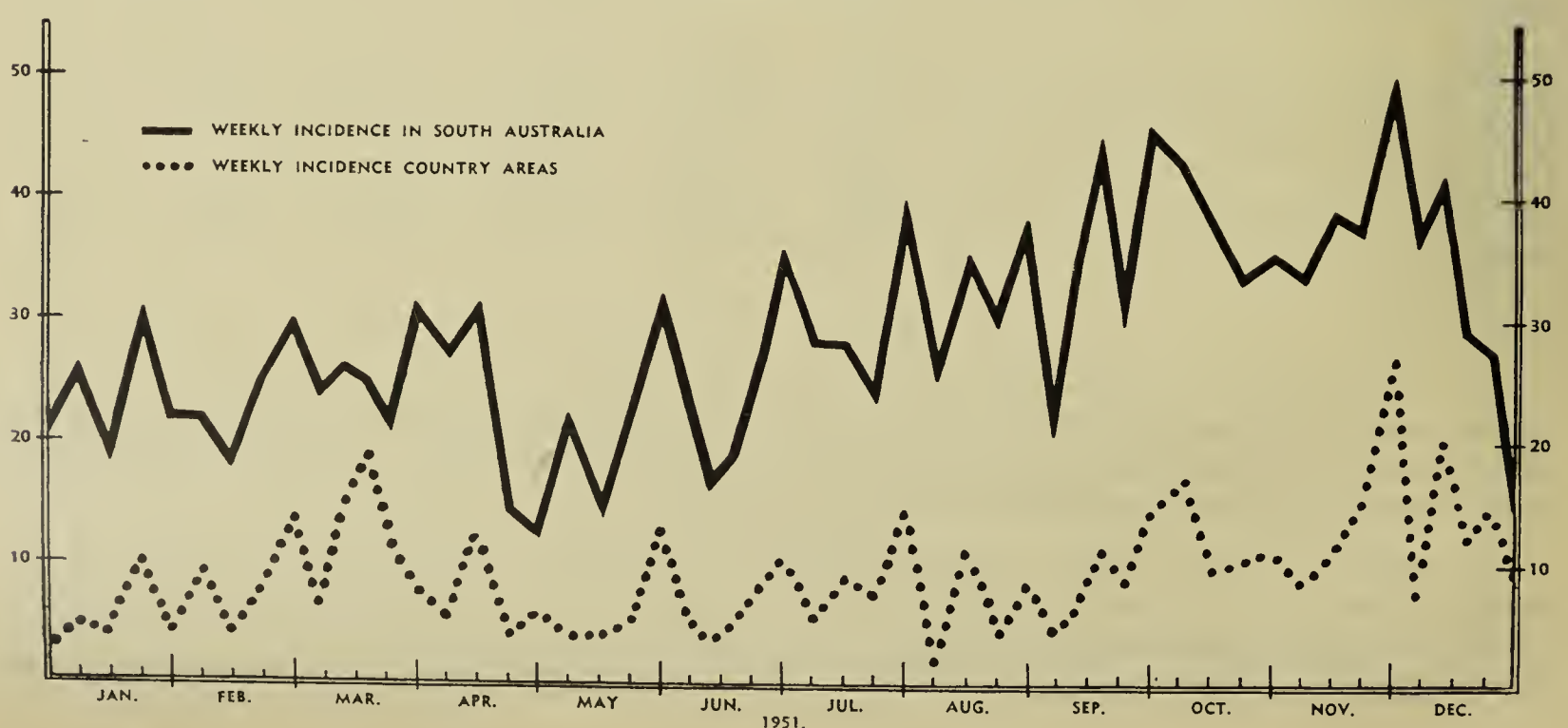
Year.	Total.	Metropolitan Area.	Other Districts.
1949 .....	582	492	90
1950 .....	973	816	157
1951 .....	1,491	1,012	479

### DEATHS.

Year.	Total	Metropolitan Area.	Other Districts.
1949 .....	20	15	5
1950 .....	17	7	10
1951 .....	62	39	23

From May, 1949, to the end of 1951, 3,044 cases were reported, with 99 deaths. The metropolitan area had 2,318 cases, 71 deaths; the other districts 726 cases, 28 deaths.

### POLIOMYELITIS.





*Some Features of the Epidemic.*—There has been no reason to change any of the conclusions previously reached. It appears that—

1. The disease is due to a virus infection that is widely spread in the community.
2. For practical purposes the virus is spread from person to person directly by droplets. Though the virus can be found in excreta and in food and water, this circumstance has little or nothing to do with the spread of the disease.
3. Of the persons infected only a small proportion become ill ; only a small proportion of those affected develop serious paralysis, and only a still smaller proportion die.
4. Various conditions of strain during the early stage of the disease may increase the severity or danger. These factors include physical exercise, immunization, operations (especially on the mouth or throat). For persons suspected of being in the early stage of infection by the virus, such hazards should be avoided.
5. The routine isolation of patients and contacts may have helped in limiting spread of infection.

*Research.*—Research on the virus has taken place here as in many other parts of the world. Much additional knowledge of the virus and its habits is steadily being gained. It is hoped that a preventive vaccine will eventually be developed.

*Care of Patients.*—A greater number of cases of poliomyelitis occurred in South Australia during 1951 than has ever occurred here before. This necessitated some alteration in the management of their after-care, for our hospital accommodation was inadequate to cope with this very large number of patients. Approximately 100 beds for adult patients were made available in the convalescent section of the Northfield Infectious Diseases Hospital. Severely affected patients and those who could not conveniently be treated at home were retained there.

About 60 other patients were cared for by the itinerant physio-therapy service. Previous to the formation of this service most of these would have been kept in hospital. This service was introduced about the middle of the year, and has worked extremely well. Its scope was limited only by the acute shortage of physio-therapists. The idea of the service is that the physio-therapist visits the home up to three times per week ; she supervises treatment, and teaches others in the home to carry out similar treatment in her absence.

A country community service was commenced at Waikerie during the year. A physio-therapist visited this town once per week, caring for about 25 patients suffering from the after-effects of poliomyelitis. Arrangements are now in hand for the physio-therapist to proceed to Berri on one day per week also, and care for about 50 mild cases of poliomyelitis which have occurred there in recent months. A local physio-therapy service was also arranged at Port Pirie.

It is hoped to extend the scheme to other country centres. A consultant orthopaedic surgeon will probably visit these centres to review the cases at intervals.

Much difficulty was incurred during the year in supplying frames and splints to convalescent poliomyelitis patients. This was partly overcome by having manufactured 100 completely adjustable tubular steel frames which would fit any person over the age of 12 years.

Shortage of physio-therapists was a problem throughout the year.

## 6. TUBERCULOSIS.

*Statistics.*—Once again a substantial decrease in tuberculosis mortality is reported for the past year. The tuberculosis death-rate of 16·7 per 100,000 (all forms) and 14·2 per 100,000 (pulmonary) is the lowest on record for the State and is 11·6 per cent below the figure for 1950.

The number of cases reported showed a very slight increase over the 1950 figures, from 362 to 376. This small increase is probably due to an intensified case-finding programme. By far the greatest number of cases still occur among persons normally resident in the metropolitan area ; there were 285 metropolitan and 91 country cases.

*Legislation.*—As has been mentioned elsewhere in this report, the Health Act was amended late in 1951, so as to include compulsory powers of three types relating to the control of tuberculosis.

The first of the powers enables the Minister of Health by notice published in the press to require any classes of persons to submit to X-ray examination of the chest.

The second power enables the Director-General of Public Health, where he has reasonable evidence for suspecting that a person has tuberculosis, to require that person to undergo such further medical examination as the Director-General thinks necessary.

The third power enables a magistrate to order that a sufferer from tuberculosis who is infectious and whose behaviour is so or his habits so negligent that he is a menace to the health of others, shall be detained in hospital and offered treatment for a period of six months. Appeals from such a decision may be made to a judge of the Supreme Court.

Similar powers exist in Western Australia, Tasmania, and Queensland, and in the territories of the Commonwealth.

A wise use of these powers can do much to further the fight against tuberculosis. X-ray surveys can be used to cover those sections of the community at special risk of tuberculosis, and those especially liable to spread it if they are sufferers. The follow-up of abnormalities discovered by X-ray survey can become virtually complete ; and those few infectious sufferers who consistently refuse to take precautions for the safety of others, and whose behaviour and habits render them a serious danger, can be obliged to remain in hospital for a time, where they will be offered treatment and taught and encouraged in the best means of safeguarding the health of others.



*Case-finding.*—Two transportable units of the State X-ray Health Survey operated throughout the year. The country unit visited Port Lincoln, Peterborough, Burra, Jamestown, Nuriootpa, Maitland, Mallala, Hamley Bridge, Eudunda and Mannum; 12,157 persons were examined.

The metropolitan unit made industrial and institutional surveys at Parkside and Northfield Mental Hospitals, Holden's, I.C.I., S.A.R. (Islington), Electricity Trust of S.A. (Hilton), Abattoirs, G. & R. Wills, Myer Emporium, Lightburn's, M.T.T., Hackney, H. M. Gaol, and S.A.R. (Adelaide), and a community survey in Burnside. Persons examined by the unit during the year numbered 17,862.

The technique of conducting the surveys remains unaltered, but the administration has been facilitated by the work of Mr. V. Russell as Publicity Officer and Organizer of X-ray Surveys for the Department.

The greatest numerical contributions to case-finding continue to be made by private practitioners and the Chest Clinic, but those new cases discovered by the State X-ray Health Survey have added importance that they frequently represent early cases amenable to treatment, and discovered before the disease has progressed far enough either to cause symptoms or to provide a dangerous focus of infection to others.



THE FLY DISPLAY ON THE TRAIN.

The microscopes were undoubtedly the principal attraction in this section of the exhibit. One showed a common housefly, and the other a portion of its legs and foot. It was obvious from the remarks of the public that they had heard in advance about "the fly's foot" and were making a special point of seeing it. Considerable interest was also shown in the display of models of various germs, and in fly control by the application of D.D.T. to wire screens.

*Tuberculosis Records.*—The Central Tuberculosis Case Registry is now well established, and provides a valuable working record of tuberculosis cases throughout the State. The registry cards show, in addition to personal details, the current clinical radiological and bacteriological status of each case, the nature of medical and public health supervision, records of admission to and discharge from hospital, status with regard to Tuberculosis Allowance, and a list of personal contacts indicating whether these persons have been examined.

*Nurse-Inspector.*—In November, 1951, Sister M. E. Anspach was appointed temporarily as Nurse-Inspector, for work in tuberculosis. She maintains liaison with the Chest Clinic and with Nurse-Inspectors in those local boards which have such officers. There is scope for much additional work in areas where local nursing supervision is not available, and in following up problems which arise after X-ray Surveys. Sister Anspach will be able to cope with some of this work, but the field is a developing one, and staff additions are likely to be needed to deal with it fully.

*Prevention.*—BCG vaccination is being used increasingly in the "special risk" groups. It is hoped to extend its use further in 1952.

In this connection, and as a general preventive measure, the action of the Council of the University of Adelaide in requiring all new students to undergo X-ray examination of the chest and tuberculin testing is to be applauded. There has been in the past considerable wastage of talent which our country can ill afford, from the ravages of tuberculosis among students and young graduates. It is confidently expected that the Council's action—the first of its kind by an Australian university—will do much to minimize this wastage.

*Administrative Problems.*—The main problem confronting the Director is that of correlating the various aspects of tuberculosis work in the Department of Public Health with that of the Chest Clinic and sanatoria. The problem of dual administration in tuberculosis has caused well-recognized and major difficulties in Great Britain in recent years.



But these difficulties are not to be compared in practical importance with those arising from spatial separation between the Chest Clinic and the Department of Public Health. Tuberculosis control is a unity, and administration in two separate establishments serving the same community means duplication of records and a weight of correspondence which might be avoided.

Despite these difficulties, the promise of success in the campaign against tuberculosis continues to grow brighter year by year. Much remains to be done in both treatment and prevention, but there are unmistakable signs that the damaging effect of tuberculosis in our community is a diminishing one.

7. FOOD AND DRUGS.

*Testing of Samples.*—The following table shows the results of analyses by the Government Analyst to ascertain if articles complied with the standards required by the regulations under the Food and Drugs Act.

Article.	Number Submitted.	Not to Standard or Incorrectly Labelled.
Aerated water .....	9	9
Baking powder .....	4	1
Butter.....	22	10
Caviare .....	2	2
Cheese.....	23	3
Cocoa .....	4	1
Confectionery .....	1	—
Cordial .....	20	3
Cream .....	7	1
Dripping.....	24	1
Fish.....	10	—
Flavouring essences .....	8	—
Flours .....	11	—
Fruit (tinned and dried) .....	12	4
Fruit colouring .....	1	—
Honey.....	6	—
Ice cream mix .....	22	3
Jelly crystals .....	1	1
Junket tablets .....	4	—
Malt extract .....	3	1
Milk .....	1,008	37
Pepper .....	4	—
Pickles .....	12	—
Sausages and mince meat .....	15	5
Spices .....	18	—
Tea .....	17	—
Tinned milk and cream .....	7	—
Tomato products .....	16	3
Tripe .....	2	2
Vinegar.....	7	—
Wines .....	6	1
Yeast extracts .....	7	1

*Prescribing of Dangerous Drugs.*—The excessive prescribing of the drug Pethidine with the advent of the Pharmaceutical Benefits Act has been investigated and it appears that the drug is being prescribed for minor ailments somewhat unnecessarily. This matter is still under consideration.

*Advisory Committee.*—The following matters were among those discussed by the Advisory Committee :—

1. Colouring of bread. The use of caramel as a colouring agent in brown bread and meal bread was considered.
2. Food seeds. The matter of a standard for food seeds was considered, but was not proceeded with.
3. Cream substitutes. The question of a standard for these preparations was before the Committee, but as the present sale is principally to bakers and confectioners the matter has been held over.
4. Polymeric phosphates in sausages. An application was received for permission to use polymeric phosphates in sausages on the grounds that they are excellent binding agents and produce a superior product. The Committee decided not to proceed with any amendment to the Regulations in this direction.



*Antibiotic Substances.*—Cases of the sale of these substances other than on prescription have been investigated ; legal proceedings against one person concerned are pending.

The question of sensitivity to penicillin preparations for external use came under notice ; it was decided by the Committee that no exemption from the prescription requirement should be made for such preparations.

The matter of the sterilization of plastic containers for penicillin preparations for parenteral injection, for which a regulation had been made, was again under consideration. As the British Pharmacopoeia Addendum now provides a standard method for the sterilization of these containers it has been decided to withdraw the South Australian Regulation.

*Poisons.*—The organic phosphate insecticides parathion, H.E.P.T., and T.E.P.P. have been added to the poisons list because of their toxicity and the extreme care needed in their use, particularly in orchard work, to prevent injury to the workers.

The regulations also provide that any prescribed poisons shall contain on the label such warning or cautionary statements as may be considered necessary in order to prevent injury to man and other vertebrate animals, vegetation and useful invertebrate animals. These warning statements are to be published by the Board from time to time in the Government Gazette for the information of manufacturers.

## 8. GENERAL SANITATION.

*Inspections.*—Inspectors of this Department carried out general routine inspections of the sanitary conditions in 37 local board areas. In addition, follow-up inspections were made by medical officers and health inspectors of the Department in all local board areas on Eyre Peninsula and Yorke Peninsula and in all local board areas in the Medical Officer's No. 2 District, except Port Pirie and Port Augusta, Truro, Eudunda, Robertstown, Jamestown, Orreroo, Carrieton and Hawker.

The local board areas of the Corporation and District of Naracoorte, Lucindale, Corporation and District of Mount Gambier, Morgan, Waikerie, Berri, Barmera, Loxton, Renmark and Paringa were also visited by medical officers. These areas are in the Medical Officer's No. 1 District.

A survey of the licensed private and maternity hospitals and rest homes in some of the metropolitan local board areas was made by a medical officer of the Department ; 35 premises were inspected.

In addition to routine inspections and follow-up inspections, many other inspections were made during the year of a special nature. Many of these were made following complaints regarding conditions thought to be dangerous to health.

*Septic Tank Sewage Disposal System.*—Regulations under the Health Act provide for the control of septic tanks by the Central Board. Each installation is required to conform to the accepted standards. During the year the Central Board of Health modified the designs of some of the recommended types of installations. These changes were introduced as the result of many years' experience in the use of septic tanks under South Australian conditions and of investigations and research in other parts of the world.

A small booklet on septic tank sewage disposal systems has been issued by the Department. It contains a description of the working of a typical septic tank sewage disposal system, descriptions and plans of approved septic tanks together with the fittings connected to them, formulae for calculating the sizes of tanks required for different purposes and varying numbers of people, basic measurements required in all tanks, legal requirements under the Health Act relating to septic tanks and information about the construction and maintenance of septic tank sewage disposal systems.

## 9. INDUSTRIAL HYGIENE.

*Activities.*—Some progress has been made in industrial hygiene during the year. Many industrial organizations have improved their facilities for the medical care and acute surgical treatment of their employees. Other firms have increased the number of nursing sisters on their staffs. Others have made arrangements for the employment of medical officers either on a full-time or part-time basis to supervise the health of their employees. Some firms have for the first time introduced an industrial medical service as a part of their organization.

During the year many industrial organizations have been assisted with advice and information regarding their industrial medical services. In addition, a number of problems relating to health in factories have been referred to this Department by the Factories and Steam Boilers Department.

*Value of the New Legislation.*—The most important development in industrial hygiene in South Australia during the year was an amendment to the Health Act. Regulations can now be made under this amendment to provide for safeguards to protect the health of people who come into contact with poisonous substances and dangerous processes in industry and in every-day life.

Many of these poisonous substances and dangerous processes are already in use and more will be introduced as developments take place in science and industry. Individual clauses in the Health Act and the Industrial Code could possibly be used to deal with isolated occasions when people were found to be exposed to substances and processes which may adversely affect their health. However, more specific legislation became necessary to prevent the occurrence of the unhealthy condition instead of dealing with it after it had occurred.



Greater control is now possible to deal with X-ray machines and radio-active substances which produce ionization. X-ray machines are often used by people who do not appreciate the dangers associated with them. These machines are used in footwear stores to actually see the position of the feet in the footwear. They are used in industry to take X-ray pictures of welds and castings. Radio-active substances are becoming increasingly available for similar uses in industry. Unless precautions are taken the ionizing rays produced by these machines and substances may adversely affect the health of those in the vicinity.

Control can also be exercised over the use of many chemical substances which are poisonous when applied to the skin or when absorbed into the body through the lungs or through the stomach and intestines. Examples are compounds of chromium and lead, benzol and similar allied solvents and various poisonous gases. Till recently almost all paints were mixed with linseed oil and/or turpentine, both comparatively harmless, but there are now many special purpose paints, lacquers, thinners and paint removers on the market that contain a wide variety of solvents. These solvents usually contain one or more substances that may be injurious to health. Benzol, the acetones, the ketones, the terpenes and the chlorinated hydrocarbons are examples. These paints are freely used by persons not aware of the dangers associated with their use or the precautions that should be taken. Use of the new organic phosphate insecticides can be controlled under the 1951 amendment. These substances are dangerous poisons and many accidents have occurred with them in other parts of the world. They are closely related to and some are identical with the "nerve" war gases that are providing problems for defence authorities.

Harmless substances that break down into dangerous poisonous gases or liquids when subjected to various treatments can also be controlled. Even the inert substance Freon 12 which is used in aerosol insecticide bombs and in refrigerators as a refrigerant produces the poisonous substance hydrofluoric acid when it is subjected to the heat of a flame. In itself Freon is odourless, non-inflammable and non-poisonous.

The rapid development of the chemical industry is producing new substances to do old and new jobs. Development is always ahead of toxicological knowledge and it is very necessary that legal control should be as mobile as possible to keep abreast of knowledge.

*Industrial Hygiene Committee.*—The Senior Medical Officer (Dr. G. H. McQueen) is a member of the Committee on Industrial Hygiene of the National Health and Medical Research Council. The Committee met on four occasions during the year, three times in Melbourne and once in Sydney. Dr. McQueen attended each meeting as the representative from South Australia.

The industrial use of radio-active isotopes in Australia was one of the most important subjects considered. The Council adopted the recommendation of the Committee that the use of these substances should be controlled and requested the Committee to recommend some form of suitable legislation. This has been done. Regulations to control these substances could be introduced in South Australia under the recent amendments to the Health Act.

In addition to the routine work of the Committee, matters of industrial hygiene interest are discussed at these meetings. Representatives of the various States benefit by the exchange of ideas that takes place and by a study of the different methods used in dealing with the industrial hygiene problems.

## 10. COMMENTS.

*Increasing Interests.*—From year to year it is common for health authorities to find changes and variations in the nature, range and volume of their work. Health work is no dull and drab static affair. Epidemics come and go, new processes in industry bring their interests and hazards, developments in food technology come into being, fresh ideas in administration and procedure are suggested—all such items have to be studied, weighed and discussed, and appropriate action taken.

Everywhere the enthusiasm for public health grows apace. The scope of the work grows, and there is more and more of it to be done.

Especially do those considerations apply in South Australia. The State Department of Health, whose officers are associated with the Central Board in its work, serves a wider function now than ever before. The increasing calls on the Department's officers for assistance and advice on health matters indicate an awakened interest of the people in community health—and perhaps a growing recognition by the people that the Department can help in solving the day-to-day problems of healthy living. Whatever the reasons, the range and amount of the Department's work have never been greater than they now are.

The body of this report is a concise summarized review of the Board's activities for 1951. A few items are selected for comment here.

*Vital Statistics.*—The numbers both of births and deaths reached record "highs" in 1951. The *rates* of each, however, have been exceeded in other years. As explained in previous reports, no material and rapid fall in the death-rate is likely here. The birth-rate, on the other hand, is a more variable feature, and reflects economic and other circumstances year by year.

*Poliomyelitis.*—The epidemic, with 3,044 cases and 99 deaths from May, 1949, till December, 1951, constitutes a record for duration and for the numbers reported. The epidemic continues, though fortunately the number of cases and the severity of infection are falling as the year ends. There are many puzzles in the epidemiology and pathology of poliomyelitis, and medical scientists are gradually clearing up some of the mysteries. The grand aim is to evolve an effective method for immunizing children against the infection, and there—according to competent authorities—the prospects are encouraging.



*Measles.*—For the four years, 1948 to 1951, the notifications of measles cases have been high—9,441, 5,677, 7,508 and 4,053. There was a lull in the first half of 1950. Fortunately the death-rate has been low.

*Other infectious Diseases.*—The figures for diphtheria remain low. With the present-day immunizing facilities so readily available there should be very little of the disease at all, and deaths from it should be rare indeed.

The streptococcal diseases—including erysipelas, scarlet fever, and some cases of puerperal pyrexia—have been few in number and low in virulence, or at least responsive to treatment. It is encouraging to note that no death from puerperal infection has been recorded in this State since 1940.

*Venereal Diseases.*—Better methods of treatment, and perhaps a better understanding of the risks, have led to a lowering of venereal diseases incidence. There is good reason to think that most victims report early to private practitioners or to clinics, and that treatment is effectively conducted.

*Tuberculosis.*—Great expansion has occurred in the State's public health activities to combat tuberculosis. The report of the State Director of Tuberculosis (Section 6 of this report) indicates the main lines of progress. The improved methods of case-finding and of treatment are likely to lead to a continued fall in the tuberculosis death-rate. The present death-rate is a record low for this State, and is about one-fifth of the tuberculosis death-rate here fifty years ago. It may be hoped with confidence that tuberculosis is "on the way out." To assure that desirable state, the steady efforts of public health authorities and of practising doctors must continue unabated.

*Industrial Medicine.*—The increase of secondary industries in the State has led to growing interest in this aspect of medicine. The public health aspects are under the constant observation of the Board's officers.

*Health Education.*—The modern advances in public health appear to depend on a better understanding of health matters by the people generally. The daily press and the current magazines devote much space to health items, and there seems a real desire for reliable information on the health problems of every-day life.

In the course of their routine work the Board's officers try to satisfy this need for knowledge. The health inspector of today is an educator rather than a mere inspector of nuisances. He has a wide knowledge of public health matters, and especially of sanitation, food supervision and infectious diseases control.

*The Local Boards.*—The Central Board appreciates the continued enthusiasm of many local boards for the conduct of their health work. Certainly some boards still show little interest, and the Central Board constantly strives to remedy that defect. The well-being of the residents of a district is greatly assisted if the local board is alert to the requirements and very attentive to its job.

*Co-operation of Government Departments.*—The Central Board appreciates the great help it receives from other Government departments. The Commonwealth Department of Health has always given ready and valued assistance, and effective co-operation between the two health authorities—Commonwealth and State—has continued. Other State Departments have also been most helpful to the Board's officers. The understanding sympathy of the Minister of Health and his officers has been especially appreciated.

There is general acceptance today of the public health idea, formulated long ago by Disraeli: "It refers to all subjects, which, if properly treated, may advance the happiness and comfort of men."

A. R. SOUTHWOOD, Chairman.

J. B. CLELAND	} Members.
NEIL D. CROSBY	
A. R. BURNELL	
A. BERTRAM COX	

H. T. HUTCHINS, Secretary,  
Adelaide, April, 1952.



APPENDIX : HEALTH IN SCHOOLS IN 1951.

Report of the Principal Medical Officer for Schools (Dr. W. Christie).

On the 1st July, the Medical Branch of the Education Department was transferred to the Department of Public Health and became the School Medical Branch. The following is a brief history of the Branch.

In 1909, Mr. Kirkpatrick was appointed Health Officer to the Education Department and in 1911 Miss Spencer was appointed as his assistant with the title of Disinfecting Officer. In 1912, Mr. Kirkpatrick transferred to the Central Board of Health and a Health Inspector was appointed in his place. In 1913 Dr. Gertrude Halley was appointed as a Medical Inspector of Schools and in 1925 she became Principal Medical Officer, a position which she occupied until she retired in 1931. A dentist, Mr. (now Dr.) Arthur Moore was appointed in 1921, and Dr. C. Davey, psychologist, was appointed in 1924. There was an enlargement of the staff of medical and dental officers in 1925. The numbers have fluctuated considerably since then. I joined as a Medical Inspector of Schools in 1926 and became Principal Medical Officer in 1931. In 1946 the Psychology Branch was formed apart from the Medical Branch and remains in the Education Department.

In 1951 we examined 14,829 boys and 12,251 girls—total, 27,080. The defect notices issued to these children are shown below, calculated per 10,000 children examined so as to make possible a comparison with other years.

DEFECT NOTICES ISSUED PER 10,000 CHILDREN EXAMINED.

Year.	Vision.	Hearing.	Nose and Throat.	Teeth.	Heart.
1942 .....	524	56	848	5,839	84
1943 .....	547	58	988	6,049	59
1944 .....	501	36	928	5,741	70
1945 .....	485	60	918	5,735	81
1946 .....	495	69	651	5,101	50
1947 .....	554	113	963	4,743	74
1948 .....	525	168	936	4,596	59
1949 .....	416	166	691	4,469	61
1950 .....	525	147	744	4,102	81
1951 .....	599	202	739	4,748	55

A comparison between metropolitan and country children for the same conditions is shown below, the figures again are per 10,000 children.

	Vision.	Hearing.	Nose and Throat.	Teeth.	Heart.	Total Numbers Examined.
Metropolitan .....	720	265	1,147	6,240	95	15,414
Country .....	903	283	854	6,716	53	11,666

The difference in the eyesight is not due to neglect because the percentages of those wearing spectacles are approximately the same in town and country. Since the standards of school lighting are much the same, it is suggested that the difference is due to home lighting. Even where electricity is available, lighting standards are far too low throughout the State. A better appreciation of this factor would lead to considerable improvement in eyesight. I do not know why there should be such a difference in the nose and throat figures. If due to a greater incidence of catarrh, then there should be more deaf town children, unless catarrh is more severe in country patients. Very few of the heart conditions are permanent. The vast majority have a murmur which generally disappears after a few years and never causes any disability. Such patients nearly always give a history of some kind of allergy in themselves or in their relatives. The hearing survey is being continued ; 20,285 children were tested this year with pure tone audiometers on loan from the Commonwealth Health Department. The unit of deafness used is the decibel which can be simply defined as the least perceptible difference in the intensity of the sound of a note. Although all children with a hearing loss, however slight, need special attention to their position in the classroom, there are others whose hearing loss is so great that hearing aids are required. Such aids are supplied and serviced without any means test to all school children who need them by the Acoustic Laboratory, a branch of the Commonwealth Health Department. Only those children whose loss is greater than 30 decibels in each ear are in real need of these aids, *i.e.*, 111 out of 20,285 who were examined. Special attention is now being given by the Education Department to children with impaired hearing, or whose speech is defective chiefly because of this.

PURE TONE AUDIOMETER TESTS OF 20,285 CHILDREN.  
RIGHT EAR.

	Hearing Loss in Decibels.										Total.
	0-9.	10-19.	20-29.	30-39.	40-49	50-59.	60-69.	70-79.	80-89.	90 and upwards.	
0-9 .....	19,163	35	30	5	3	5	1	—	—	—	19,242
10-19 .....	40	117	95	22	9	3	5	3	1	—	295
20-29 .....	45	84	280	63	13	4	3	2	1	—	495
30-39 .....	16	19	52	50	16	1	—	—	—	—	154
40-49 .....	5	7	16	12	10	—	—	—	—	—	50
50-59 .....	2	2	6	5	2	2	1	2	—	—	22
60-69 .....	1	3	2	—	—	1	1	2	—	—	10
70-79 .....	2	1	4	1	1	—	1	—	—	1	11
80-89 .....	2	1	—	—	1	—	—	1	—	—	5
90 and upwards .....	—	—	1	—	—	—	—	—	—	—	1
Total .....	19,276	269	486	158	55	16	12	10	2	1	20,285

A large number of the above children were not in the groups due to be examined, but were sent by teachers or parents for examination because of suspected deafness. This has increased the number of those with minor degrees of deafness and probably accounts for the large number whose hearing loss is from 20 to 29 decibels, and for those who are deaf in only one ear.



The irregularity of the incidence of infectious diseases reported by teachers can best be seen from the following table which shows, for the last four years, the number of cases per 10,000 children attending State schools.

	Diphtheria.	Scarlet Fever.	Measles.	German Measles.	Whooping Cough.	Chicken Pox.	Mumps.
1948 .....	3.7	11.7	502	2.5	77	151	43
1949 .....	0.8	24.0	346	37.0	85	3.8	327
1950 .....	1.3	18.3	464	8.5	8	136	216
1951 .....	1.5	16.7	198	80.1	15.6	147	126

The total number of cases of these diseases reported by teachers are shown below :—

	Diphtheria.	Scarlet Fever.	Measles.	Whooping Cough.	Chicken Pox.	Mumps.	German Measles.	Pulmonary Tuberculosis.	Polio- myelitis.
1941 ..	464	147	164	884	1,039	1,290	607	—	2
1942 ..	132	362	6,594	837	808	2,242	666	—	1
1943 ..	182	929	323	756	2,052	792	75	—	—
1944 ..	74	606	2,373	388	1,679	296	102	—	—
1945 ..	63	295	433	1,020	946	760	42	—	6
1946 ..	36	200	3,816	87	962	507	38	—	19
1947 ..	21	194	127	7	1,459	314	22	—	12
1948 ..	28	89	3,815	583	1,151	331	19	—	6
1949 ..	6	180	2,596	641	2,385	2,456	277	2	147
1950 ..	11	169	4,034	70	1,180	1,904	74	—	219
1951 ..	14	160	1,880	148	1,398	1,198	761	1	364

This table reflects the value of immunization in reducing the incidence of diphtheria. Ringworm (51), is the commonest condition of the 101 cases recorded as “ various ” in 1951 ; many of the 51 cases were probably annular impetigo, but cases of true ringworm do occur. Scabies has disappeared temporarily and so has trachoma, and no enteric fever has been reported for many years.

The dental position is more promising. Although, at present, we have only one dentist, there is a prospect of four or five new graduates joining the Department in 1952.

Dr. Mitchell and Sister Anstey have joined the staff, and Mrs. George (dentist) resigned.